K130881
Page 1 of 8

510(k) Summary
Prepared March 26, 2013

1. Sponsor:

Siemens Medical Solutions, Inc.,
Ultrasound Division
685 East Middlefield Road
Mountain View, California 94043

Contact Person: Shelly Pearce
Telephone: (650) 694-5988
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2. Device Name: Acuson S2000 and S3000 Diagnostic Ultrasound Systems

Common Name: Diagnostic Ultrasound System

Classification:

Regulatory Class: II
Review Category: Tier II
Classification Panel: Radiology

OCT 11 2013

Ultrasonic Pulsed Doppler Imaging System	FR # 892.1550	Product Code 90-IYN
Ultrasonic Pulsed Echo Imaging System	FR # 892.1560	Product Code 90-IYO
Diagnostic Ultrasound Transducer	FR # 892.1570	Product Code 90-ITX
Diagnostic Ultrasound Catheter	FR # 870.1200	Product Code OBJ

3. Legally Marketed Predicate Devices

The Acuson S2000 and S3000 Ultrasound Systems are substantially equivalent to the company's own S2000 and S3000 Ultrasound Systems and Supersonic Imagine Shearwave Elastography (K111674, K121138, K112255, K121329)

4. Device Description:

The S2000 and S3000 Ultrasound Systems are multi-purpose mobile, software controlled diagnostic ultrasound systems with an on-screen display for thermal and mechanical indices related to potential bio-effect mechanisms. Its function is to acquire primary or secondary harmonic ultrasound echo data and display it in B-Mode, M-Mode, Pulsed (PW) Doppler Mode, Continuous (CW) Doppler Mode, Color Doppler Mode, Amplitude Doppler Mode, a combination of modes, or Harmonic Imaging and 3D/4D Imaging on a Flat Panel Display. It is substantially equivalent to the S2000 (K111674) and S3000 system (K121138) which are legally marketed devices.

5. Intended Use

The S2000 and S3000 ultrasound imaging systems are intended for the following applications: Fetal, Abdominal, Intraoperative, Pediatric, Small Parts, Transcranial, OB/GYN, Cardiac, Pelvic, Neonatal/Adult Cephalic, Vascular, Musculoskeletal, Superficial Musculoskeletal, and Peripheral Vascular applications.

The system also provides the ability to measure anatomical structures {fetal, abdominal, intraoperative, intraoperative neurological, pediatric, small organ, neonatal cephalic, adult cephalic, cardiac, trans-esophageal, transrectal, transvaginal, peripheral vessel, musculo-skeletal (conventional), musculo-skeletal (superficial) and neonatal cardiac} and calculation packages that provide information that provide information to the clinician that may be used adjunctively with other medical data obtained by a physician for clinical diagnosis purposes.

The Arterial Health Package (AHP) software provides the physician with the capability to measure Intima Media Thickness and the option to reference normative tables that have been validated and published in peer-reviewed studies. The information is intended to provide the physician with an easily understood tool for communicating with patients regarding state of their cardiovascular system. This feature should be utilized according to the "ASE Consensus Statement; Use of Carotid Ultrasound to Identify Subclinical Vascular Disease and Evaluate Cardiovascular Disease Risk: A Consensus Statement from the American Association of Echocardiography; Carotid Intima-Media Thickness Task Force, Endorsed by the Society for Vascular Imaging".

The Acuson Acunav Ultrasound Catheter is intended for intra-cardiac and intra-luminal visualization of cardiac and great vessel anatomy and physiology, as well as visualization of other devices in the heart of adult and pediatric patients.

6. Summary of Technological Characteristics – New Device Compared to Predicate

Feature / Characteristic	Submission Device S2000	Submission Device S3000	Acuson S3000 K121138	Acuson S2000 K111674	Supersonic Imagine K112255 / K121329
Indications for Use:					
▪ Fetal	√	√	√	√	
▪ Abdominal	√	√	√	√	√
▪ Intraoperative abdominal and vascular	√	√	√	√	
▪ Intraoperative neurological	--	--	--	--	--
▪ Pediatric	√	√	√	√	√
▪ Small Organ	√	√	√	√	√
▪ Neonatal cephalic	√	√	√	√	
▪ Adult Cephalic	√	√	√	√	
▪ Cardiac	√	√	√	√	
▪ Trans-esophageal	√	√	√	√	
▪ Transrectal	√	√	√	√	√
▪ Transvaginal	√	√	√	√	√
▪ Peripheral vessel	√	√	√	√	√
▪ Laparoscopic	--	--	--	--	--
▪ Musculo-skeletal (conventional)	√	√	√	√	√
▪ Musculo-skeletal (superficial)	√	√	√	√	√
Center Frequencies Supported:					
▪ 2.0 MHz	√	√	√	√	√
▪ 3.0 MHz	√	√	√	√	√
▪ 3.2 MHz	√	√	√	√	√

Feature / Characteristic	Submission Device S2000	Submission Device S3000	Acuson S3000 K121138	Acuson S2000 K111674	Supersonic Imagine K112255 / K121329
▪ 3.3 MHz	√	√	√	√	√
▪ 4.2 MHz	√	√	√	√	√
▪ 4.4 MHz	√	√	√	√	√
▪ 4.8 MHz	√	√	√	√	√
▪ 5.0 MHz	√	√	√	√	√
▪ 5.2 MHz	√	√	√	√	√
▪ 6.0 MHz	√	√	√	√	√
▪ 6.5 MHz	√	√	√	√	√
▪ 6.9 MHz	√	√	√	√	√
▪ 9.5 MHz	√	√	√	√	√
▪ 10.0 MHz	√	√	√	√	√
Modes:					
▪ B	√	√	√	√	√
▪ Parallel processing in B mode	√	√	√	√	√
▪ M	√	√	√	√	
▪ PWD (Pulsed Wave Doppler)	√	√	√	√	√
▪ CWD (Continuous Wave Doppler)	√	√	√	√	√
▪ D (Color Doppler)	√	√	√	√	√
▪ Amplitude Doppler	√	√	√	√	√
▪ Combined (BMDC)	√	√	√	√	√
Features:					
Quad processing in color	√	√	√	√	
▪ Native™ tissue harmonic imaging	√	√	√	√	
▪ SieScape™ panoramic imaging	√	√	√	√	
▪ Color SieScape™ panoramic imaging	√	√	√	√	
▪ 3-Scape™ real-time 3D imaging	√	√	√	√	
▪ fourSight™ 4D transducer technology	√	√	√	√	
▪ TEQ™ ultrasound technology	√	√	√	√	
▪ Extend imaging technology	√	√	√	√	
▪ Cardiac Imaging physiological signal display	√	√	√	√	
▪ syngo ® Auto OB measurements	√	√	√	√	
▪ Advanced SieClear™ spatial compounding	√	√	√	√	
▪ STIC (Fetal Heart Imaging)	√	√	√	√	
▪ Amnioscopic rendering	√	√	√	√	
▪ Cadence contrast agent imaging	√	√	√	√	
▪ Clarify™ vascular enhancement technology	√	√	√	√	
▪ eSie™ Touch elasticity imaging	√	√	√	√	√
▪ syngo ® Auto Left heart	√	√	√	√	
▪ syngo ® Velocity Vector Imaging	√	√	√	√	
▪ Semi Auto-segmentation (eSie Calc)	√	√	√	√	

Feature / Characteristic	Submission Device S2000	Submission Device S3000	Acuson S3000 K121138	Acuson S2000 K111674	Supersonic Imagine K112255 / K121329
▪ Custom Tissue Imaging / Speed of Sound	√	√	√	√	
▪ AHP	√	√	√	√	
▪ VTIQ	√	√			√
▪ 18L6HD Transducer	√	√	√	√	
▪ 6C1HD Transducer	√	√	√	√	
▪ 8C3HD Transducer		√	√		
▪ Monitor: FPD	√	√	√	√	√
Output Display Standard (Track 3)	√	√	√	√	√
Patient Contact Materials	Tested to ISO 10993-1	Tested to ISO 10993-1	Tested to ISO 10993-1	Tested to ISO 10993-1	Tested to ISO 10993-1
UL 60601-1 Certified	√	√	√	√	√

Shear Wave Elasticity Imaging Software	VTIQ	Supersonic Imagine Aixplorer	Comments
Comparable Exam Types	Breast, Thyroid	Breast, Thyroid	
Transducer for same Exam Types	9L4 Multi-D Linear Array	10L2, 15L4 Linear Array	
Operating Mode	Single Frame	Low Frame Rate Real Time	Note 1
Cool Down period before live imaging resumes	Yes (variable, ~3-6 sec)	No	Note 1
Push Pulse beam density	High (variable with FOV size)	Low (variable with FOV size) Reference Figure 13 in Supersonic White Paper	Note 1
Multiple Push Pulse Focal Zones	Yes	"Mach Cone"	In both cases, multiple push pulse focal zones in depth are used for the purpose of increasing radiation force uniformity with depth. "Mach Cone" is the Supersonic term for compound transmit focusing, similar to Siemens.
Two Dimensional Display with Elasticity Region of Interest	Yes	Yes	
Localized Quantitative Shear Wave Velocity measurement	Yes	Yes - Predicate not cleared in the U.S.A.	

Localized Quantitative Young's Modulus measurement	No	Yes - Predicate not cleared in the U.S.A.	Supersonic Imagine has implemented the shear wave velocity scale in the color bar which indicates relative shear wave speed in the image and has been cleared in the U.S. Young's modulus is not cleared. Siemens VTIQ is equivalent to Supersonic except Siemens is requesting clearance for point measurements in addition to displaying shear wave velocity on the color bar. When Young's modulus is displayed (kPa), assumptions are made regarding tissue density and viscosity that may not be correct in a wide range of biological tissues and is therefore an indirect measurement. Shear wave velocity is a direct measurement.
Shear Wave Velocity Display Mode	Yes	Yes	
Shear Wave Quality Display Mode	Yes	No	The Shear Wave Quality display assists the user in interpreting possible shear wave velocity estimate artifacts in the Shear Wave Velocity image by indicating in a color coded display the shear wave magnitude and signal to noise ratio (SNR) of the shear wave form. This display can reduce the number of false negative indications with shear wave imaging in lesions with very high shear modulus that attenuate the shear wave.
Shear Wave Travel Time Display Mode	Yes	No	Shear Wave Travel Time display improves the dynamic range of the shear wave image in focal regions of high shear wave velocity as illustrated in figures 1 and 2 below.
Shear Wave Displacement Display Mode	Yes	No	The Shear Wave displacement image provides information to the user about relative shear wave amplitudes throughout the shear wave image and can be useful to correlate regions of high shear wave attenuation within regions of high shear modulus to the Shear Wave Quality image. The Shear Wave Displacement image can also assist in identifying lesion boundaries.
Shear Wave Propagation "Movie" (clip)	No	Yes	Siemens approach to visualizing shear wave characteristics are the Shear Wave Quality, Time and Displacement maps. The Supersonic shear wave propagation movie provides information specific to their implementation of shear wave imaging, as noted in Note 1.
Shear Wave Velocity Measurement Range	0.5-10 m/sec	0.1-10 m/sec	Siemens has chosen a lower velocity cutoff of 0.5 m/s to avoid potential artifacts. In in-vivo studies, shear wave velocities below 0.5 m/s have not been encountered so there is no impact on clinical efficacy.
"See through to B mode" when no shear wave detected	Yes	Yes	
Color Coded Shear Wave Velocity Display	Yes	Yes	
Adjustable Maximum and Minimum Velocity Scale	Yes	Yes	
In Color Code, Red is 'stiff' and blue is 'soft'	Yes	Yes	
Color map is transparent over B mode display	Yes	Yes	
Other system features:			
B Mode Imaging	Yes	Yes	
Pulse Wave Doppler Imaging	Yes	Yes	

Color Flow Doppler Imaging	Yes	Yes	
Spatial Compound Imaging	Yes	Yes	
Speckle Reduction Image Processing	Yes	Yes	
Tissue Harmonic Imaging	Yes	Yes	

Note 1:

There are differences in push pulse sequencing and shearwave detection between the predicate device (Supersonic Aixplorer) and Siemens VTIQ. Siemens uses closely spaced focused push beams and a large number of closely spaced focused detection beams resulting in higher signal to noise ratio in shearwave imaging than the predicate device. We attribute this to several factors, including wide spacing of push beams on the Aixplorer, plane wave detection of shearwaves over a wide area on the Aixplorer resulting in signal to noise limitations and a higher frequency transducer (15L4 on Aixplorer vs 9L4 on VTIQ) that results in higher shearwave attenuation with the predicate device. Additionally, a reduced push beam mechanical index is used on the Aixplorer as compared to the constant value of 1.7 with VTIQ, which allows pseudo-real time operation on the Aixplorer of approximately 1 frame per second. The user is required to compound the image at the region of interest over several seconds with the Aixplorer to allow the image to "build up" over several frames to improve signal to noise ratio. VTIQ is a single frame image acquisition that allows higher signal to noise ratio without image compounding and generates a more consistent shearwave velocity estimation based on our experience in in-vivo studies. Using VTIQ and Supersonic Aixplorer in the same lesions on the same subjects, we have encountered many cases where maximum shearwave velocity with VTIQ was higher and more completely filled in with shearwave information throughout the lesion than with the predicate device in biopsy proven breast cancers. In many cases the maximum velocity on the predicate device fell far below the threshold cutoff of 80 kPa (~5.2 m/s) indicated in the Supersonic BE1 study for malignancy as indicated in the 25 example cases submitted (refer to tab 1.7.5.10 D).

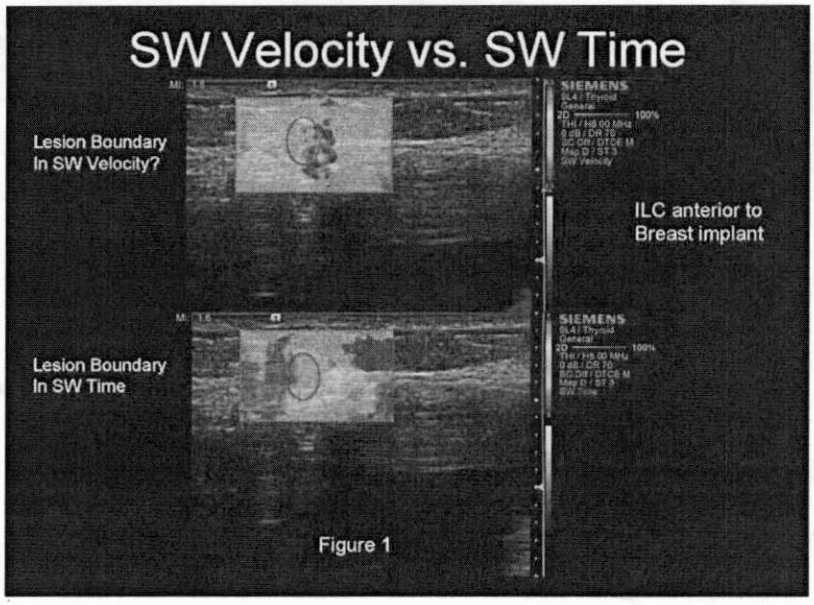
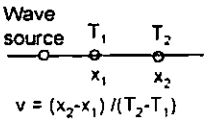


Figure 1

Relationship of SW Velocity and SW Travel Time Displays



In shear wave velocity imaging, the distance between detection locations (x1, and x2) is constant and the sampling rate (pulse repetition frequency) of detection is also constant, the inverse relationship between velocity and travel time illustrates that travel time display has high dynamic range at low velocity while velocity display has high dynamic range at high velocity.

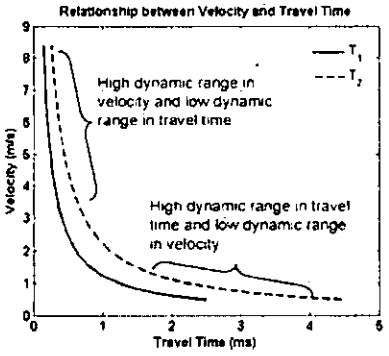


Figure 2

7. A brief discussion of nonclinical tests submitted, referenced, or relied on in the 510(k) for a determination of substantial equivalence.

The devices have been evaluated for acoustic output, biocompatibility, cleaning and disinfection effectiveness as well as thermal, electrical, electromagnetic and mechanical safety and has been found to conform with applicable medical device safety standards. The system complies with the following voluntary standards:

- UL 60601-1, Safety Requirements for Medical Equipment
- IEC 60601-2-37 Diagnostic Ultrasound Safety Standards
- CSA C22.2 No. 601-1, Safety Requirements for Medical Equipment
- AIUM/NEMA UD-3, Standard for Real Time Display of Thermal and Mechanical Acoustic Output Indices on Diagnostic Ultrasound Equipment
- AIUM/NEMA UD-2, Acoustic Output Measurement Standard for Diagnostic Ultrasound
- 93/42/EEC Medical Devices Directive
- Safety and EMC Requirements for Medical Equipment
  - EN/IEC 60601-1
  - EN/IEC 60601-1-1
  - EN/IEC 60601-1-2
- IEC 1157 Declaration of Acoustic Power
- ISO 10993-1 Biocompatibility

Cleared patient contact materials, electrical and mechanical safety are unchanged.

8. A summary discussion of the clinical tests submitted, referenced, or relied on for a determination of substantial equivalence.

The S2000, S3000 and Aixplorer use the same technology and principles as existing devices, clinical data is not required.

9. Summary

Intended uses and other key features are consistent with traditional clinical practice and FDA guidelines. The design and development process of the manufacturer conforms with 21 CFR

820 Quality System Regulation and ISO 13485:2003 quality system standards. The product is designed to conform with applicable medical device safety standards and compliance is verified through independent evaluation with ongoing factory surveillance. Diagnostic ultrasound has accumulated a long history of safe and effective performance. Therefore it is the opinion of Siemens Medical that the devices are substantially equivalent with respect to safety and effectiveness to devices currently cleared for market.

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Food and Drug Administration
10903 New Hampshire Avenue
Document Control Center – WO66-G609
Silver Spring, MD 20993-0002

October 11, 2013

Siemens Medical Solutions, Inc.
% Ms Shelly Pearce
Regulatory Affairs
1230 Shorebird Way
MOUNTAIN VIEW CA 94043

Re: K130881
Trade/Device Name: Acuson S2000 and S3000 Diagnostic Ultrasound Systems
Regulation Number: 21 CFR 892.1550
Regulation Name: Ultrasonic pulsed doppler imaging system
Regulatory Class: II
Product Code: IYN, IYO, ITX, OBJ
Dated: October 3, 2013
Received: October 4, 2013

Dear Ms. Pearce:

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration. Please note: CDRH does not evaluate information related to contract liability warranties. We remind you, however, that device labeling must be truthful and not misleading.

This determination of substantial equivalence applies to the following transducers intended for use with the Acuson S2000 and S3000 Diagnostic Ultrasound Systems, as described in your premarket notification:

Transducer Model Number

CW2	CW5	EC9-4 Curved Array
9L4 Linear Array	14L5 Multi-D Array	4P1 Phased Array
6C2 Curved Array	4C1 Curved Array	6C1HD Curved Array
4V1 Phased Array	10V4 Phased Array	14L5 SP Linear Array
7CF2 Curved Array	9EVF4 Curved Array	V5Ms Multiplane TEE
8V3 Phased Array	4V1c Phased Array	6L3
EV8C4	8C3HD Curved Array	18L6 HD Linear Array
V7M TEE	AcuNav 8F	AcuNav 10F

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish further announcements concerning your device in the Federal Register.

Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Part 801); medical device reporting (reporting of medical device-related adverse events) (21 CFR 803); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820); and if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR 1000-1050.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801), please contact the Division of Small Manufacturers, International and Consumer Assistance at its toll-free number (800) 638 2041 or (301) 796-7100 or at its Internet address http://www.fda.gov/MedicalDevices/ResourcesforYou/Industry/default.htm. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21CFR Part 807.97). For questions regarding the reporting of adverse events under the MDR regulation (21 CFR Part 803), please go to http://www.fda.gov/MedicalDevices/Safety/ReportaProblem/default.htm for the CDRH's Office of Surveillance and Biometrics/Division of Postmarket Surveillance.

You may obtain other general information on your responsibilities under the Act from the Division of Small Manufacturers, International and Consumer Assistance at its toll-free number (800) 638-2041 or (301) 796-7100 or at its Internet address http://www.fda.gov/MedicalDevices/ResourcesforYou/Industry/default.htm.

Sincerely yours,

for

Janine M. Morris
Director, Division of Radiological Health
Office of In Vitro Diagnostics
and Radiological Health
Center for Devices and Radiological Health

Enclosure

1.3 Indications for Use

A. 510(k) Number (if known): K130881

Device Name: S2000 and S3000 Diagnostic Ultrasound Systems

Indications for Use:
The S2000 and S3000 ultrasound imaging systems are intended for the following applications: Fetal, Abdominal, Intraoperative, Pediatric, Small Parts, Transcranial, OB/GYN, Cardiac, Pelvic, Neonatal/Adult Cephalic, Vascular, Musculoskeletal, Superficial Musculoskeletal, and Peripheral Vascular applications.

The system also provides the ability to measure anatomical structures {fetal, abdominal, intraoperative, intraoperative neurological, pediatric, small organ, neonatal cephalic, adult cephalic, cardiac, trans-esophageal, transrectal, transvaginal, peripheral vessel, musculo-skeletal (conventional), musculo-skeletal (superficial) and neonatal cardiac} and calculation packages that provide information that provide information to the clinician that may be used adjunctively with other medical data obtained by a physician for clinical diagnosis purposes.

The Arterial Health Package (AHP) software provides the physician with the capability to measure Intima Media Thickness and the option to reference normative tables that have been validated and published in peer-reviewed studies. The information is intended to provide the physician with an easily understood tool for communicating with patients regarding state of their cardiovascular system. This feature should be utilized according to the "ASE Consensus Statement; Use of Carotid Ultrasound to Identify Subclinical Vascular Disease and Evaluate Cardiovascular Disease Risk: A Consensus Statement from the American Association of Echocardiography; Carotid Intima-Media Thickness Task Force, Endorsed by the Society for Vascular Imaging".

The Acuson Acunav Ultrasound Catheter is intended for intra-cardiac and intra-luminal visualization of cardiac and great vessel anatomy and physiology, as well as visualization of other devices in the heart of adult and pediatric patients.

Prescription Use ____X___ (Part 21CFR 801 Subpart D)

AND/OR

Over-The-Counter Use _____ (21 CFR 801 Subpart C)

(PLEASE DO NOT WRITE BELOW THIS LINE-CONTINUE ON ANOTHER PAGE IF NEEDED)

Concurrence of CDRH, Office of In Vitro Diagnostics and Radiological Health (OIR)

Division Sign-Off
Division of Radiological Health
Office of In Vitro Diagnostics and Radiological Health

510(k) K130881

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1.3 Indications for Use Forms

Diagnostic Ultrasound Indications for Use Form

510 (k) Number (if known):

Device Name: **ACUSON S2000/S3000 Ultrasound Systems**
Intended Use: Ultrasound imaging or fluid flow analysis of the human body as follows:

Clinical Application	Mode of Operation									
	A	B	M	PWD	CWD	Color Doppler	Amplitude Doppler	Color Velocity Imaging	Combined (Specify)	Other (Specify)
Ophthalmic										
Fetal		P	P	P	P	P	P		BMDC	Note 2,3,4,5,7,8,10, 11, 13
Abdominal		P	P	P	P	P	P		BMDC	Note 2,3,4,5,7,8,10, 11, 13
Intraoperative (Note 9)		P	P	P	P	P	P		BMDC	Note 2,3,4,5,7,8,10, 11, 14
Intraoperative Neurological		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8,10, 11, 14
Pediatric		P	P	P	P	P	P		BMDC	Note 2,3,4,5,7,8,10, 11
Small Organ (Note 1)		P	P	P	P	P	P		BMDC	Note 2,3,4,5,7,8,10, 11,14, 16, 18
Neonatal Cephalic		P	P	P	P	P	P		BMDC	Note 2,3,4,5,7,8,10
Adult Cephalic		P	P	P	P	P	P		BMDC	Note 2,3,4,5,7,8,10
Cardiac		P	P	P	P	P	P		BMDC	Note 2,3,4,5,6,7,8,10,15
Trans-esophageal		P	P	P	P	P	P		BMDC	Note 4
Transrectal		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8,10, 11,14
Transvaginal		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8,10, 11
Transurethral										
Intravascular										
Peripheral vessel		P	P	P	P	P	P		BMDC	Note2,3,4,5,6,7,8,10, 11,14,15
Laparoscopic										
Musculo-skeletal Conventional		P	P	P	P	P	P		BMDC	Note 2,3,4,5,7,8,10, 11,14, 18
Musculo-skeletal Superficial		P	P	P	P	P	P		BMDC	Note 2,3,4,5,7,8,10, 11,14, 18
Other (specify) Neonatal Cardiac		P	P	P	P	P	P		BMDC	Note 3,4,6, 10

N = new indication; P = previously cleared by FDA K111674, 121138

Note 1 For example: breast, testes, thyroid, penis, prostate, etc.
Note 2 Ensemble tissue harmonic imaging
Note 3 SieClear multi-view spatial compounding
Note 4 Tissue Equalization Technology
Note 5 3-Scape real-time 3D imaging
Note 6 Cadence contrast agent imaging
Note 7 B&W SieScape panoramic imaging
Note 8 Power SieScape panoramic imaging
Note 9 For example: vascular, abdominal
Note 10 Clarify VE vascular enhancement technology
Note 11 Advanced Sieclear spatial compounding
Note 13 STIC
Note 14 eSie™ Touch elasticity imaging / FTI
Note 15 AHP
Note 16 Custom Tissue Imaging
Note 18 VTIQ

(PLEASE DO NOT WRITE BELOW THIS LINE-CONTINUE ON ANOTHER PAGE IF NEEDED)

Concurrence of CDRH, Office of In Vitro Diagnostics and Radiological Health (OIR)

Division Sign-Off
Division of Radiological Health
Office of In Vitro Diagnostics and Radiological Health

510(k)_____ Page 2 of ___

Diagnostic Ultrasound Indications for Use Form

510 (k) Number (if known):

Device Name: CW2 Probe for use with ACUSON S2000/S3000
Intended Use: Ultrasound imaging or fluid flow analysis of the human body as follows:

Clinical Application	Mode of Operation									
	A	B	M	PWD	CWD	Color Doppler	Amplitude Doppler	Color Velocity Imaging	Combined (Specify)	Other (Specify)
Ophthalmic										
Fetal					P					
Abdominal					P					
Intraoperative (Note 9)					P					
Intraoperative Neurological										
Pediatric					P					
Small Organ (Note 1)					P					
Neonatal Cephalic					P					
Adult Cephalic					P					
Cardiac					P					
Trans-esophageal										
Transrectal										
Transvaginal										
Transurethral										
Intravascular										
Peripheral vessel					P					
Laparoscopic										
Musculo-skeletal Conventional					P					
Musculo-skeletal Superficial					P					
Other (specify)										

N = new indication; P = previously cleared by FDA K# 111674, 121138

Additional Comments:

Note 1 For example: breast, testes, thyroid, penis, prostate, etc.
Note 9 For example: vascular, abdominal

(PLEASE DO NOT WRITE BELOW THIS LINE-CONTINUE ON ANOTHER PAGE IF NEEDED)

Concurrence of CDRH, Office of In Vitro Diagnostics and Radiological Health (OIR)

Division Sign-Off

Division of Radiological Health

Office of In Vitro Diagnostics and Radiological Health

510(k)_____ Page 3 of ___

Diagnostic Ultrasound Indications for Use Form

510 (k) Number (if known):

Device Name: CW5 Probe for use with ACUSON S2000/3000
Intended Use: Ultrasound imaging or fluid flow analysis of the human body as follows:

Clinical Application	Mode of Operation									
	A	B	M	PWD	CWD	Color Doppler	Amplitude Doppler	Color Velocity Imaging	Combined (Specify)	Other (Specify)
Ophthalmic										
Fetal					P					
Abdominal					P					
Intraoperative (Note 9)					P					
Intraoperative Neurological					P					
Pediatric					P					
Small Organ (Note 1)					P					
Neonatal Cephalic					P					
Adult Cephalic					P					
Cardiac					P					
Trans-esophageal										
Transrectal										
Transvaginal										
Transurethral										
Intravascular										
Peripheral vessel					P					
Laparoscopic										
Musculo-skeletal Conventional					P					
Musculo-skeletal Superficial					P					
Other (specify)										

N = new indication; P = previously cleared by FDA K# 111674, 121138

Additional Comments:

Note 1 For example: breast, testes, thyroid, penis, prostate, etc.
Note 9 For example: vascular, abdominal

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Diagnostic Ultrasound Indications for Use Form

510 (k) Number (if known):

Device Name: EC9-4 Curved Array Transducer for use with ACUSON S2000/3000
Intended Use: Ultrasound imaging or fluid flow analysis of the human body as follows:

Clinical Application	Mode of Operation									
	A	B	M	PWD	CWD	Color Doppler	Amplitude Doppler	Color Velocity Imaging	Combined (Specify)	Other (Specify)
Ophthalmic										
Fetal		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8,10, 11
Abdominal		P	P	P		P	P		BMDC	Note 2,3,4,5,6,,7,8,10, 11,
Intraoperative Abdominal										
Intraoperative Neurological										
Pediatric										
Small Organ (Note 1)		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8,10, 11,14
Neonatal Cephalic		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8,10
Adult Cephalic										
Cardiac										
Trans-esophageal										
Transrectal		P	P	P		P	P		BMDC	Note 2,3,4,5, 6, 7,8,10, 11,14
Transvaginal		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8,10, 11
Transurethral										
Intravascular										
Peripheral vessel										
Laparoscopic										
Musculo-skeletal Conventional										
Musculo-skeletal Superficial										
Other (specify)										

N = new indication; P = previously cleared by FDA K# 111674, 121138

Additional Comments:

Note 1 For example: breast, testes, thyroid, penis, prostate, etc.
Note 2 Ensemble tissue harmonic imaging
Note 3 SieClear multi-view spatial compounding
Note 4 Tissue Equalization Technology
Note 5 3-Scape real-time 3D imaging
Note 6 Cadence contrast agent imaging
Note 7 B&W SieScape panoramic imaging
Note 8 Power SieScape panoramic imaging
Note 10 Clarify VE vascular enhancement technology
Note 11 Advanced Sieclear spatial compounding
Note 14 eSie™ Touch elasticity imaging / FTI

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Diagnostic Ultrasound Indications for Use Form

510 (k) Number (if known):

Device Name: 9L4 Linear Array Transducer for use with ACUSON S2000/3000
Intended Use: Ultrasound imaging or fluid flow analysis of the human body as follows:

Clinical Application	Mode of Operation									
	A	B	M	PWD	CWD	Color Doppler	Amplitude Doppler	Color Velocity Imaging	Combined (Specify)	Other (Specify)
Ophthalmic										
Fetal		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8,10, 11
Abdominal										
Intraoperative Abdominal										
Intraoperative Neurological										
Pediatric		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8,10, 11
Small Organ (Note 1)		P	P	P		P	P		BMDC	Note 2,3,4,5,6,7,8,10, 11,14, 16, 18
Neonatal Cephalic		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8,10, 11
Adult Cephalic		P	P	P		P	P			
Cardiac		P	P	P		P	P		BMDC	Note 15
Trans-esophageal										
Transrectal										
Transvaginal										
Transurethral										
Intravascular										
Peripheral vessel		P	P	P		P	P		BMDC	Note 2,3,4,5,6, 7,8,10, 11, 14,15
Laparoscopic										
Musculo-skeletal Conventional		P	P	P		P	P		BMDC	Note 2,3,4,5,6,7,8,10, 11, 14, 18
Musculo-skeletal Superficial		P	P	P		P	P		BMDC	Note 2,3,4,5,6,7,8,10, 11, 14, 18
Other (specify)										

N = new indication; P = previously cleared by FDA K# 111674, 121138

Additional Comments:

Note 1 For example: breast, testes, thyroid, penis, prostate, etc.
Note 2 Ensemble tissue harmonic imaging
Note 3 SieClear multi-view spatial compounding
Note 4 Tissue Equalization Technology
Note 5 3-Scape real-time 3D imaging
Note 6 Cadence contrast agent imaging
Note 7 B&W SieScape panoramic imaging
Note 8 Power SieScape panoramic imaging
Note 10 Clarify VE vascular enhancement technology
Note 11 Advanced Sieclear spatial compounding
Note 14 eSie™ Touch elasticity imaging / FTI
Note 15 AHP
Note 16 Custom Tissue Imaging
Note 18 VTIQ

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Diagnostic Ultrasound Indications for Use Form

510 (k) Number (if known):

Device Name: 14L5 Multi-D Array Transducer for use with ACUSON S2000/3000
Intended Use: Ultrasound imaging or fluid flow analysis of the human body as follows:

Clinical Application	Mode of Operation									
	A	B	M	PWD	CWD	Color Doppler	Amplitude Doppler	Color Velocity Imaging	Combined (Specify)	Other (Specify)
Ophthalmic										
Fetal										
Abdominal										
Intraoperative Abdominal										
Intraoperative Neurological										
Pediatric										
Small Organ (Note 1)		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8,10, 11, 14, 16
Neonatal Cephalic										
Adult Cephalic										
Cardiac										
Trans-esophageal										
Transrectal										
Transvaginal										
Transurethral										
Intravascular										
Peripheral vessel		P	P	P		P	P		BMDC	Note 2,3,4,5,6, 7,8,10, 11, 14
Laparoscopic										
Musculo-skeletal Conventional		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8,10, 11, 14
Musculo-skeletal Superficial										
Other (specify)										

N = new indication; P = previously cleared by FDA K# 111674, 121138

Additional Comments:
Note 1 For example: breast, testes, thyroid, penis, prostate, etc.
Note 2 Ensemble tissue harmonic imaging
Note 3 SieClear multi-view spatial compounding
Note 4 Tissue Equalization Technology
Note 5 3-Scape real-time 3D imaging
Note 6 Cadence contrast agent imaging
Note 7 B&W SieScape panoramic imaging
Note 8 Power SieScape panoramic imaging
Note 10 Clarify VE vascular enhancement technology
Note 11 Advanced Sieclear spatial compounding
Note 14 eSie™ Touch elasticity imaging / FTI
Note 16 Custom Tissue Imaging

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Diagnostic Ultrasound Indications for Use Form

510 (k) Number (if known):

Device Name: 4P1 Phased Array Transducer for use with ACUSON S2000/3000
Intended Use: Ultrasound imaging or fluid flow analysis of the human body as follows:

Clinical Application	Mode of Operation									
	A	B	M	PWD	CWD	Color Doppler	Amplitude Doppler	Color Velocity Imaging	Combined (Specify)	Other (Specify)
Ophthalmic										
Fetal		P	P	P	P	P	P		BMDC	Note 2,3,4,5,7,8,10
Abdominal		P	P	P	P	P	P		BMDC	Note 2,3,4,5,7,8,10
Intraoperative Abdominal										
Intraoperative Neurological										
Pediatric										
Small Organ										
Neonatal Cephalic										
Adult Cephalic		P	P	P	P	P	P		BMDC	Note 2,3,4,5,7,8,10
Cardiac		P	P	P	P	P	P		BMDC	Note 2,3,4,5,6,7,8,10
Trans-esophageal										
Transrectal										
Transvaginal										
Transurethral										
Intravascular										
Peripheral vessel										
Laparoscopic										
Musculo-skeletal Conventional										
Musculo-skeletal										
Superficial										
Other (specify)										

N = new indication; P = previously cleared by FDA K# 111674, 121138

Additional Comments:

Note 2 Ensemble tissue harmonic imaging
Note 3 SieClear multi-view spatial compounding
Note 4 Tissue Equalization Technology
Note 5 3-Scape real-time 3D imaging
Note 6 Cadence contrast agent imaging
Note 7 B&W SieScape panoramic imaging
Note 8 Power SieScape panoramic imaging
Note 10 Clarify VE vascular enhancement technology

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Diagnostic Ultrasound Indications for Use Form

510 (k) Number (if known):

Device Name: 6C2 Curved Array Transducer for use with ACUSON S2000/3000
Intended Use: Ultrasound imaging or fluid flow analysis of the human body as follows:

Clinical Application	Mode of Operation									
	A	B	M	PWD	CWD	Color Doppler	Amplitude Doppler	Color Velocity Imaging	Combined (Specify)	Other (Specify)
Ophthalmic										
Fetal		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8,10, 11
Abdominal		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8,10, 11, 14, 16
Intraoperative Abdominal										
Intraoperative Neurological										
Pediatric		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8,10, 11
Small Organ										
Neonatal Cephalic										
Adult Cephalic										
Cardiac										
Trans-esophageal										
Transrectal										
Transvaginal										
Transurethral										
Intravascular										
Peripheral vessel		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8,10, 11
Laparoscopic										
Musculo-skeletal Conventional										
Musculo-skeletal Superficial										
Other (specify)										

N = new indication; P = previously cleared by FDA K# 111674, 121138

Additional Comments:

Note 2 Ensemble tissue harmonic imaging
Note 3 SieClear multi-view spatial compounding
Note 4 Tissue Equalization Technology
Note 5 3-Scape real-time 3D imaging
Note 7 B&W SieScape panoramic imaging
Note 8 Power SieScape panoramic imaging
Note 10 Clarify VE vascular enhancement technology
Note 11 Advanced Sieclear spatial compounding
Note 14 eSie™ Touch elasticity imaging / FTI
Note 16 Custom Tissue Imaging

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Diagnostic Ultrasound Indications for Use Form

510 (k) Number (if known):

Device Name: 4C1 Curved Array Transducer for use with ACUSON S2000/3000
Intended Use: Ultrasound imaging or fluid flow analysis of the human body as follows:

Clinical Application	Mode of Operation									
	A	B	M	PWD	CWD	Color Doppler	Amplitude Doppler	Color Velocity Imaging	Combined (Specify)	Other (Specify)
Ophthalmic										
Fetal		P	P	P	P	P	P		BMDC	Note 2,3,4,5,7,8,10, 11
Abdominal		P	P	P	P	P	P		BMDC	Note2,3,4,5,6,7,8, 10, 11, 14, 16
Intraoperative Abdominal										
Intraoperative Neurological										
Pediatric										
Small Organ		P	P	P	P	P	P		BMDC	
Neonatal Cephalic										
Adult Cephalic										
Cardiac		P	P	P	P	P	P		BMDC	
Trans-esophageal										
Transrectal										
Transvaginal										
Transurethral										
Intravascular										
Peripheral vessel		P	P	P	P	P	P		BMDC	
Laparoscopic										
Musculo-skeletal Conventional										
Musculo-skeletal Superficial										
Other (specify)										

N = new indication; P = previously cleared by FDA K# 111674, 121138

Additional Comments:

Note 2 Ensemble tissue harmonic imaging
Note 3 SieClear multi-view spatial compounding
Note 4 Tissue Equalization Technology
Note 5 3-Scape real-time 3D imaging
Note 6 Cadence contrast agent imaging
Note 7 B&W SieScape panoramic imaging
Note 8 Power SieScape panoramic imaging
Note 10 Clarify VE vascular enhancement technology
Note 11 Advanced Sieclear spatial compounding
Note 14 eSie™ Touch elasticity imaging / FTI
Note 16 Custom Tissue Imaging

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Diagnostic Ultrasound Indications for Use Form

510 (k) Number (if known):

Device Name: 6C1HD Curved Array Transducer for use with ACUSON S2000/3000
Intended Use: Ultrasound imaging or fluid flow analysis of the human body as follows:

Clinical Application	Mode of Operation									
	A	B	M	PWD	CWD	Color Doppler	Amplitude Doppler	Color Velocity Imaging	Combined (Specify)	Other (Specify)
Ophthalmic										
Fetal		P	P	P	P	P	P		BMDC	Note 2,3,4,5,7,8,10, 11
Abdominal		P	P	P	P	P	P		BMDC	Note2,3,4,5,6,7,8, 10, 11, 14, 16
Intraoperative Abdominal										
Intraoperative Neurological										
Pediatric										
Small Organ		P	P	P	P	P	P		BMDC	
Neonatal Cephalic										
Adult Cephalic										
Cardiac		P	P	P	P	P	P		BMDC	
Trans-esophageal										
Transrectal										
Transvaginal										
Transurethral										
Intravascular										
Peripheral vessel		P	P	P	P	P	P		BMDC	
Laparoscopic										
Musculo-skeletal Conventional										
Musculo-skeletal Superficial										
Other (specify)										

N = new indication; P = previously cleared by FDA K# 111674, 121138

Additional Comments:

Note 2 Ensemble tissue harmonic imaging
Note 3 SieClear multi-view spatial compounding
Note 4 Tissue Equalization Technology
Note 5 3-Scape real-time 3D imaging
Note 6 Cadence contrast agent imaging
Note 7 B&W SieScape panoramic imaging
Note 8 Power SieScape panoramic imaging
Note 10 Clarify VE vascular enhancement technology
Note 11 Advanced Sieclear spatial compounding
Note 14 eSie™ Touch elasticity imaging / FTI
Note 16 Custom Tissue Imaging

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Diagnostic Ultrasound Indications for Use Form

510 (k) Number (if known):

Device Name: 4V1 Phased Array Transducer for use with ACUSON S2000/3000
Intended Use: Ultrasound imaging or fluid flow analysis of the human body as follows:

Clinical Application	Mode of Operation									
	A	B	M	PWD	CWD	Color Doppler	Amplitude Doppler	Color Velocity Imaging	Combined (Specify)	Other (Specify)
Ophthalmic										
Fetal		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8,10
Abdominal		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8,10, 14, 16, 17
Intraoperative Abdominal										
Intraoperative Neurological										
Pediatric										
Small Organ										
Neonatal Cephalic										
Adult Cephalic										
Cardiac										
Trans-esophageal										
Transrectal										
Transvaginal										
Transurethral										
Intravascular										
Peripheral vessel										
Laparoscopic										
Musculo-skeletal Conventional										
Musculo-skeletal Superficial										
Other (specify)										

N = new indication; P = previously cleared by FDA K# 111674, 121138

Additional Comments:

Note 2 Ensemble tissue harmonic imaging
Note 3 SieClear multi view spatial compounding
Note 4 Tissue Equalization Technology
Note 5 3-Scape real-time 3D imaging
Note 7 B&W SieScape panoramic imaging
Note 8 Power SieScape panoramic imaging
Note 10 Clarify VE vascular enhancement technology
Note 11 Advanced Sieclear spatial compounding
Note 14 eSie™ Touch elasticity imaging / FTI
Note 16 Custom Tissue Imaging

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Diagnostic Ultrasound Indications for Use Form

510 (k) Number (if known):

Device Name: 10V4 Phased Array Transducer for use with ACUSON S2000/3000
Intended Use: Ultrasound imaging or fluid flow analysis of the human body as follows:

Clinical Application	Mode of Operation									
	A	B	M	PWD	CWD	Color Doppler	Amplitude Doppler	Color Velocity Imaging	Combined (Specify)	Other (Specify)
Ophthalmic										
Fetal		P	P	P	P	P	P		BMDC	Note 2,3,4,5,7,8,10
Abdominal		P	P	P	P	P	P		BMDC	Note 2,3,4,5,7,8,10
Intraoperative Abdominal										
Intraoperative Neurological										
Pediatric		P	P	P	P	P	P		BMDC	Note 2,3,4,5,7,8,10
Small Organ										
Neonatal Cephalic		P	P	P	P	P	P		BMDC	Note 2,3,4,5,7,8,10
Adult Cephalic										
Cardiac		P	P	P	P	P	P		BMDC	Note 3,4
Trans-esophageal										
Transrectal										
Transvaginal										
Transurethral										
Intravascular										
Peripheral vessel		P	P	P	P	P	P		BMDC	Note 2,3,4,5,7,8,10
Laparoscopic										
Musculo-skeletal Conventional										
Musculo-skeletal										
Superficial										
Other (specify)										

N = new indication; P = previously cleared by FDA K# 111674, 121138

Additional Comments:

Note 2 Ensemble tissue harmonic imaging
Note 3 SieClear multi view spatial compounding
Note 4 Tissue Equalization Technology
Note 5 3-Scape real-time 3D imaging
Note 7 B&W SieScape panoramic imaging
Note 8 Power SieScape panoramic imaging
Note 10 Clarify VE vascular enhancement technology

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Diagnostic Ultrasound Indications for Use Form

510 (k) Number (if known):

Device Name: 14L5 SP Linear Array Transducer for use with ACUSON S2000/3000
Indications For Use: Diagnostic imaging or fluid flow analysis of the human body as follows:

Clinical Application	Mode of Operation									
	A	B	M	PWD	CWD	Color Doppler	Amplitude Doppler	Color Velocity Imaging	Combined (Specify)	Other (Specify)
Ophthalmic										
Fetal										
Abdominal										
Intraoperative (Note 9)		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8,10
Intraoperative Neurological		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8,10, 11
Pediatric										
Small Organ (Note 1)		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8,10, 11,14, 16
Neonatal Cephalic										
Adult Cephalic										
Cardiac		P	P	P		P	P		BMDC	Note 15
Transesophageal										
Transrectal										
Transvaginal										
Transurethral										
Intravascular										
Peripheral vessel		P	P	P		P	P		BMDC	Note2,3,4,5,6 ,7,8,10, 11,14,15
Laparoscopic										
Musculo-skeletal Conventional		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8,10, 11,14
Musculo-skeletal Superficial										
Other (specify)										

N = new indication; P = previously cleared by FDA K# 111674, 121138

Additional Comments:

Note 1 For example: breast, testes, thyroid, penis, prostate, etc.
Note 2 Ensemble tissue harmonic imaging
Note 3 SieClear multi-view spatial compounding
Note 4 Tissue Equalization Technology
Note 5 3-Scape real-time 3D imaging
Note 6 Cadence contrast agent imaging
Note 7 B&W SieScape panoramic imaging
Note 8 Power SieScape panoramic imaging
Note 9 For example: vascular, abdominal
Note 10 Clarify VE vascular enhancement technology
Note 11 Advanced Sieclear spatial compounding
Note 14 eSie™ Touch elasticity imaging / FTI
Note 15 AHP
Note 16 Custom Tissue Imaging

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Diagnostic Ultrasound Indications for Use Form

510 (k) Number (if known):

Device Name: 7CF2 Curved array mechanical 3D transducer for use with ACUSON S2000/3000
Intended Use: Ultrasound imaging or fluid flow analysis of the human body as follows:

Clinical Application	Mode of Operation									
	A	B	M	PWD	CWD	Color Doppler	Amplitude Doppler	Color Velocity Imaging	Combined (Specify)	Other (Specify)
Ophthalmic										
Fetal		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8,10, 11,13
Abdominal		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8,10, 11, 13
Intraoperative Abdominal										
Intraoperative Neurological										
Pediatric										
Small Organ										
Neonatal Cephalic										
Adult Cephalic										
Cardiac										
Trans-esophageal										
Transrectal										
Transvaginal										
Transurethral										
Intravascular										
Peripheral vessel										
Laparoscopic										
Musculo-skeletal Conventional										
Musculo-skeletal Superficial										
Other (specify)										

N = new indication; P = previously cleared by FDA K# 111674, 121138

Additional Comments:

Note 2 Ensemble tissue harmonic imaging
Note 3 SieClear multi-view spatial compounding
Note 4 Tissue Equalization Technology
Note 5 3-Scape real-time 3D imaging
Note 7 B&W SieScape panoramic imaging
Note 8 Power SieScape panoramic imaging
Note 10 Clarify VE vascular enhancement technology
Note 11 Advanced Sieclear spatial compounding
Note 13 STIC

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Diagnostic Ultrasound Indications for Use Form

510 (k) Number (if known):

Device Name: 9EVF4 Curved Array Transducer for use with ACUSON S2000/3000
Intended Use: Ultrasound imaging or fluid flow analysis of the human body as follows:

Clinical Application	Mode of Operation									
	A	B	M	PWD	CWD	Color Doppler	Amplitude Doppler	Color Velocity Imaging	Combined (Specify)	Other (Specify)
Ophthalmic										
Fetal		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8, 10,11, 13
Abdominal										
Intraoperative Abdominal										
Intraoperative Neurological										
Pediatric										
Small Organ										
Neonatal Cephalic		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8, 10,11
Adult Cephalic										
Cardiac										
Trans-esophageal										
Transrectal										
Transvaginal		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8, 10,11
Transurethral										
Intravascular										
Peripheral vessel										
Laparoscopic										
Musculo-skeletal Conventional										
Musculo-skeletal Superficial										
Other (specify)										

N = new indication; P = previously cleared by FDA K# 111674, 121138

Additional Comments:
Note 2 Ensemble tissue harmonic imaging
Note 3 SieClear multi-view spatial compounding
Note 4 Tissue Equalization Technology
Note 5 3-Scape real-time 3D imaging
Note 7 B&W SieScape panoramic imaging
Note 8 Power SieScape panoramic imaging
Note 10 Clarify VE vascular enhancement technology
Note 11 Advanced Sieclear spatial compounding
Note 13 STIC

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Diagnostic Ultrasound Indications for Use Form

510 (k) Number (if known):

Device Name: V5Ms Multiplane TEE Transducer for use with ACUSON S2000/3000
Intended Use: Ultrasound imaging or fluid flow analysis of the human body as follows:

Clinical Application	Mode of Operation									
	A	B	M	PWD	CWD	Color Doppler	Amplitude Doppler	Color Velocity Imaging	Combined (Specify)	Other (Specify)
Ophthalmic										
Fetal										
Abdominal										
Intraoperative Abdominal										
Intraoperative Neurological										
Pediatric										
Small Organ										
Neonatal Cephalic										
Adult Cephalic										
Cardiac										
Trans-esophageal		P	P	P	P	P	P		BMDC	Note 4
Transrectal										
Transvaginal										
Transurethral										
Intravascular										
Peripheral vessel										
Laparoscopic										
Musculo-skeletal Conventional										
Musculo-skeletal Superficial										
Other (specify)										

N = new indication; P = previously cleared by FDA K# 111674, 121138

Additional Comments:
Note 4 Tissue Equalization Technology

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Diagnostic Ultrasound Indications for Use Form

510 (k) Number (if known):

Device Name: 8V3 Phased Array Transducer for use with ACUSON S2000/3000
Intended Use: Ultrasound imaging or fluid flow analysis of the human body as follows:

Clinical Application	Mode of Operation									
	A	B	M	PWD	CWD	Color Doppler	Amplitude Doppler	Color Velocity Imaging	Combined (Specify)	Other (Specify)
Ophthalmic										
Fetal		P	P	P	P	P	P		BMDC	Note 2,3,4,5,7,8,10
Abdominal										
Intraoperative Abdominal										
Intraoperative Neurological										
Pediatric		P	P	P	P	P	P		BMDC	Note 2,3,4,5,7,8,10
Small Organ										
Neonatal Cephalic		P	P	P	P	P	P		BMDC	Note 2,3,4,5,7,8,10
Adult Cephalic										
Cardiac		P	P	P	P	P	P		BMDC	Note 3,4,6
Trans-esophageal										
Transrectal										
Transvaginal										
Transurethral										
Intravascular										
Peripheral vessel										
Laparoscopic										
Musculo-skeletal Conventional										
Musculo-skeletal Superficial										
Other (specify) Neonatal Cardiac		P	P	P	P	P	P		BMDC	Note 3,4,6

N = new indication; P = previously cleared by FDA K# 111674, 121138

Additional Comments:

Note 2 Ensemble tissue harmonic imaging
Note 3 SieClear multi-view spatial compounding
Note 4 Tissue Equalization Technology
Note 5 3-Scape real-time 3D imaging
Note 6 Cadence contrast agent imaging
Note 7 B&W SieScape panoramic imaging
Note 8 Power SieScape panoramic imaging
Note 10 Clarify VE vascular enhancement technology

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Diagnostic Ultrasound Indications for Use Form

510 (k) Number (if known):

Device Name: 4V1c Phased Array Transducer for use with ACUSON S2000/3000
Intended Use: Ultrasound imaging or fluid flow analysis of the human body as follows:

Clinical Application	Mode of Operation									
	A	B	M	PWD	CWD	Color Doppler	Amplitude Doppler	Color Velocity Imaging	Combined (Specify)	Other (Specify)
Ophthalmic										
Fetal		P	P	P	P	P	P		BMDC	Note 2 3 4 5 7 8 10
Abdominal		P	P	P	P	P	P		BMDC	Note 2 3 4 5 7 8 10
Intraoperative Abdominal		P	P	P	P	P	P		BMDC	Note 2 3 4 5 7 8 10
Intraoperative Neurological		P	P	P	P	P	P		BMDC	Note 2 3 4 5 7 8 10
Pediatric		P	P	P	P	P	P		BMDC	Note 2 3 4 5 7 8 10
Small Organ										
Neonatal Cephalic										
Adult Cephalic		P	P	P	P	P	P		BMDC	Note 2 3 4 5 7 8 10
Cardiac		P	P	P	P	P	P		BMDC	Note 2 3 4 5 7 8 10 15
Trans-esophageal										
Transrectal										
Transvaginal										
Transurethral										
Intravascular										
Peripheral vessel		P	P	P	P	P	P		BMDC	Note 2 3 4 5 7 8 10 15
Laparoscopic										
Musculo-skeletal Conventional										
Musculo-skeletal Superficial										
Other (specify) Neonatal Cardiac		P	P	P	P	P	P		BMDC	Note 2 3 4 5 7 8 10

N = new indication; P = previously cleared by FDA K 111674, 121138

Additional Comments:

Note 2 Ensemble tissue harmonic imaging
Note 3 SieClear multi-view spatial compounding
Note 4 Tissue Equalization Technology
Note 5 3-Scape real-time 3D imaging
Note 6 Cadence contrast agent imaging
Note 7 B&W SieScape panoramic imaging
Note 8 Power SieScape panoramic imaging
Note 10 Clarify VE vascular enhancement technology
Note 15 AHP

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Diagnostic Ultrasound Indications for Use Form

510 (k) Number (if known):

Device Name: 6L3 Transducer for use with ACUSON S2000/3000
Intended Use: Ultrasound imaging or fluid flow analysis of the human body as follows:

Clinical Application	Mode of Operation									
	A	B	M	PWD	CWD	Color Doppler	Amplitude Doppler	Color Velocity Imaging	Combined (Specify)	Other (Specify)
Ophthalmic										
Fetal		P	P	P	P	P	P		BMDC	Note 2 3 4 5 7 8 10, 11
Abdominal										
Intraoperative Abdominal		P	P	P	P	P	P		BMDC	Note 2 3 4 5 7 8 10, 11
Intraoperative Neurological		P	P	P	P	P	P		BMDC	Note 2 3 4 5 7 8 10, 11
Pediatric										
Small Organ		P	P	P	P	P	P		BMDC	Note 2 3 4 5 7 8 10, 1
Neonatal Cephalic										
Adult Cephalic										
Cardiac		P	P	P	P	P	P		BMDC	Note 2 3 4 5 7 8 10 15
Trans-esophageal										
Transrectal										
Transvaginal										
Transurethral										
Intravascular										
Peripheral vessel		P	P	P	P	P	P		BMDC	Note 2 3 4 5 7 8 10, 11 15
Laparoscopic										
~~Musculo-skeletal~~ Conventional		P	P	P	P	P	P		~~BMDC~~	~~Note 2 3 4 5 7 8 10, 11~~
Musculo-skeletal Superficial		P	P	P	P	P	P		BMDC	Note 2 3 4 5 7 8 10, 11
Other (specify)										

N = new indication; P = previously cleared by FDA K# 111674, 121138

Additional Comments:
Note 2 Ensemble tissue harmonic imaging
Note 3 SieClear multi-view spatial compounding
Note 4 Tissue Equalization Technology
Note 5 3-Scape real-time 3D imaging
Note 6 Cadence contrast agent imaging
Note 7 B&W SieScape panoramic imaging
Note 8 Power SieScape panoramic imaging
Note 10 Clarify VE vascular enhancement technology
Note 11 Advanced Sieclear spatial compounding
Note 15 AHP

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Diagnostic Ultrasound Indications for Use Form

510 (k) Number (if known):

Device Name: EV8C4 Transducer for use with ACUSON S2000/3000
Intended Use: Ultrasound imaging or fluid flow analysis of the human body as follows:

Clinical Application	Mode of Operation									
	A	B	M	PWD	CWD	Color Doppler	Amplitude Doppler	Color Velocity Imaging	Combined (Specify)	Other (Specify)
Ophthalmic										
Fetal		P	P	P	P	P	P		BMDC	Note 2 3 4 5 7 8 10
Abdominal		P	P	P	P	P	P		BMDC	Note 2 3 4 5 7 8 10
Intraoperative Abdominal										
Intraoperative Neurological										
Pediatric										
Small Organ										
Neonatal Cephalic										
Adult Cephalic										
Cardiac										
Trans-esophageal										
Transrectal										
Transvaginal		P	P	P	P	P	P		BMDC	Note 2 3 4 5 6 7 8 10
Transurethral										
Intravascular										
Peripheral vessel										
Laparoscopic										
Musculo-skeletal Conventional										
Musculo-skeletal Superficial										
Other (specify)										

N = new indication; P = previously cleared by FDA K# 111674, 121138

Additional Comments:

Note 2 Ensemble tissue harmonic imaging
Note 3 SieClear multi-view spatial compounding
Note 4 Tissue Equalization Technology
Note 5 3-Scape real-time 3D imaging
Note 6 Cadence contrast agent imaging
Note 7 B&W SieScape panoramic imaging
Note 8 Power SieScape panoramic imaging
Note 10 Clarify VE vascular enhancement technology

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Diagnostic Ultrasound Indications for Use Form

510 (k) Number (if known):

Device Name: 8C3HD Curved Array Transducer for use with ACUSON S3000
Intended Use: Ultrasound imaging or fluid flow analysis of the human body as follows:

Clinical Application	Mode of Operation									
	A	B	M	PWD	CWD	Color Doppler	Amplitude Doppler	Color Velocity Imaging	Combined (Specify)	Other (Specify)
Ophthalmic										
Fetal		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8,10, 11
Abdominal		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8,10, 11, 14, 16
Intraoperative Abdominal										
Intraoperative Neurological										
Pediatric		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8,10, 11
Small Organ		P	P	P		P	P		BMDC	
Neonatal Cephalic										
Adult Cephalic										
Cardiac										
Trans-esophageal										
Transrectal										
Transvaginal										
Transurethral										
Intravascular										
Peripheral vessel		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8,10, 11
Laparoscopic										
Musculo-skeletal Conventional										
Musculo-skeletal Superficial										
Other (specify)										

N = new indication; P = previously cleared by FDA K#121138

Additional Comments:

Note 2 Ensemble tissue harmonic imaging
Note 3 SieClear multi-view spatial compounding
Note 4 Tissue Equalization Technology
Note 5 3-Scape real-time 3D imaging
Note 6 Cadence contrast agent imaging
Note 7 B&W SieScape panoramic imaging
Note 8 Power SieScape panoramic imaging
Note 10 Clarify VE vascular enhancement technology
Note 11 Advanced Sieclear spatial compounding
Note 14 eSie™ Touch elasticity imaging / FTI
Note 16 Custom Tissue Imaging

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Diagnostic Ultrasound Indications for Use Form

510 (k) Number (if known):

Device Name: 18L6 HD Linear Array Transducer for use with ACUSON S2000/3000
Intended Use: Ultrasound imaging or fluid flow analysis of the human body as follows:

Clinical Application	Mode of Operation									
	A	B	M	PWD	CWD	Color Doppler	Amplitude Doppler	Color Velocity Imaging	Combined (Specify)	Other (Specify)
Ophthalmic										
Fetal										
Abdominal										
Intraoperative Abdominal										
Intraoperative Neurological										
Pediatric										
Small Organ (Note 1)		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8,10, 11,14, 16
Neonatal Cephalic										
Adult Cephalic										
Cardiac		P	P	P		P	P		BMDC	Note 15
Trans-esophageal										
Transrectal										
Transvaginal										
Transurethral										
Intravascular										
Peripheral vessel		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8,10, 11,14,15
Laparoscopic										
Musculo-skeletal Conventional		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8,10, 11,14
Musculo-skeletal Superficial		P	P	P		P	P		BMDC	Note 2,3,4,5,7,8,10, 11,14
Other (specify)										

N = new indication; P = previously cleared by FDA K111674, K121138

Additional Comments:

Note 1 For example: breast, testes, thyroid, penis, prostate, etc.
Note 2 Ensemble tissue harmonic imaging
Note 3 SieClear multi-view spatial compounding
Note 4 Tissue Equalization Technology
Note 5 3-Scape real-time 3D imaging
Note 7 B&W SieScape panoramic imaging
Note 8 Power SieScape panoramic imaging
Note 10 Clarify VE vascular enhancement technology
Note 11 Advanced Sieclear spatial compounding
Note 14 eSie™ Touch elasticity imaging / FTI
Note 15 AHP
Note 16 Custom Tissue Imaging

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Diagnostic Ultrasound Indications for Use Form

510 (k) Number (if known):

Device Name: V7M TEE Transducer for use with ACUSON S2000/3000
Intended Use: Ultrasound imaging or fluid flow analysis of the human body as follows:

Clinical Application	A	B	M	PWD	CWD	Color Doppler	Power (Amplitude) Doppler	Color Velocity Imaging	Combined (Specify) *	Harmonic Imaging	Other (Specify)
Ophthalmic											
Fetal											
Abdominal		P	P	P	P	P	P		P	P	Note 4
Intraoperative Abdominal											
Intraoperative Neurological											
Pediatric		P	P	P	P	P	P		P	P	Note 4
Small Organ (specify)**											
Neonatal Cephalic											
Adult Cephalic											
Cardiac		P	P	P	P	P	P		P	P	Note 4
Trans-esophageal		P	P	P	P	P	P		P	P	Note 4
Transrectal											
Transvaginal											
Transurethral											
Intravascular											
Peripheral Vessel											
Laparoscopic											
Musculo-skeletal (Conventional)											
Musculo-skeletal (Superficial)											
Other (specify)											

P=previously cleared by the FDA under premarket notifications # K111674, 121138

Additional Comments:

*Combinations include: B+M, B+PWD, B+CWD, B+Color Doppler, B+M+ Color Doppler, B+PWD+Color Doppler, B+CWD+Color Doppler, B+Power Doppler,

B+M+POWER DOPPLER, B+PWD+POWER DOPPLER, B+CWD+POWER DOPPLER, B+CLARIFY VE

Note 2 Ensemble tissue harmonic imaging
Note 4 Tissue Equalization Technology
Note 10 Clarify VE vascular enhancement technology

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Diagnostic Ultrasound Indications for Use Form

510 (k) Number (if known):

Device Name: AcuNav 8F Ultrasound Catheter for use with ACUSON S2000/3000

Intended Use: Catheter is intended for intra-cardiac and intraluminal visualization of cardiac and great vessel anatomy and physiology as well as visualization of other devices in the heart of adult and pediatric patients.

	Mode of Operation									
Clinical Application	**A**	**B**	**M**	**PWD**	**CWD**	**Color Doppler**	**Power (Amplitude) Doppler**	**Color Velocity Imaging**	**Combined (Specify) ***	**Other: Harmonic Imaging**
Ophtalmic										
Fetal										
Abdominal										
Intraoperative (Vascular)										
Intraoperative (Neurological)										
Pediatric		P	P	P	P	P	P		P	
Small Organ (Specify)**										
Neonatal Cephalic										
Adult Cephalic										
Cardiac		P	P	P	P	P	P		P	
Trans-esophageal										
Transrectal										
Transvaginal										
Transurethral										
Intra-Luminal		P	P	P	P	P	P		P	
Peripheral Vessel										
Laparoscopic										
Musculo-skeletal Conventional										
Musculo-skeletal Superficial										
Other (Intra-Cardiac)		P	P	P	P	P	P		P	

P=Previously cleared by the FDA K111674, 121138

Additional Comments:

*Combinations include: B+M, B+PWD, B+CWD, B+Color Doppler, B+M+ Color Doppler, B+PWD+Color Doppler, B+CWD+Color Doppler, B+Power Doppler,

B+M+POWER DOPPLER, B+PWD+POWER DOPPLER, B+CWD+POWER DOPPLER

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Diagnostic Ultrasound Indications for Use Form

510 (k) Number (if known):

Device Name: AcuNav 10F Ultrasound Catheter for use with ACUSON S2000/3000

Intended Use: Catheter is intended for intra-cardiac and intraluminal visualization of cardiac and great vessel anatomy and physiology as well as visualization of other devices in the heart of adult and pediatric patients.

	Mode of Operation									
Clinical Application	**A**	**B**	**M**	**PWD**	**CWD**	**Color Doppler**	**Power (Amplitude) Doppler**	**Color Velocity Imaging**	**Combined (Specify) ***	**Other: Harmonic Imaging**
Ophtalmic										
Fetal										
Abdominal										
Intraoperative (Vascular)										
Intraoperative (Neurological)										
Pediatric		P	P	P	P	P	P		P	
Small Organ (Specify)**										
Neonatal Cephalic										
Adult Cephalic										
Cardiac		P	P	P	P	P	P		P	
Trans-esophageal										
Transrectal										
Transvaginal										
Transurethral										
Intra-Luminal		P	P	P	P	P	P		P	
Peripheral Vessel										
Laparoscopic										
Musculo-skeletal Conventional										
Musculo-skeletal Superficial										
Other (Intra-Cardiac)		P	P	P	P	P	P		P	

P=Previously cleared by the FDA K111674, 121138

Additional Comments:
*Combinations include: B+M, B+PWD, B+CWD, B+Color Doppler, B+M+ Color Doppler, B+PWD+Color Doppler, B+CWD+Color Doppler, B+Power Doppler,

B+M+POWER DOPPLER, B+PWD+POWER DOPPLER, B+CWD+POWER DOPPLER

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